

## Organophosphorus compounds with an active methylene group

Pudovik A., Yastrebova G.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

---

### Abstract

The review deals with the present state of the chemistry of organophosphorus compounds with an active methylene group: esters and nitriles of phosphonoacetic acids, phosphonoacetone, and other compounds in which the methylene group is linked directly to the P=O and any other electronegative group. Compounds of this type are analogues of acetoacetic, malonic, cyanoacetic, and phenylacetic esters, the importance of which for theoretical and synthetic organic chemistry is well known. The methods for the synthesis of phosphorus-containing compounds with an active methylene group are considered in the first part of the review, while their chemical properties associated with the mobility of the hydrogen atoms of the methylene group (alkylation, addition, condensation, P(O)-activated olefin formation, and certain other reactions) are dealt with in the second part. © IOP Publishing Ltd.

<http://dx.doi.org/10.1070/RC1970v039n07ABEH002007>

---